

RAINBOX WATER GENERATOR: Pure Drinking Water from the Air We Breathe

Many major breakthroughs and scientific advancements are the result of hard work, diligence and attention to detail. Others are the result of luck, hunches and being in the right place at the right time. The invention of these water generators is no exception, and contains elements of both luck and hard work.

The inventors of the water generator concept are Daniel R. Engel and Matthew E. Clasby, Jr. The story of their invention begins in 1987 on an unusually hot, humid and somewhat frustrating summer's day at a steel mill in Beaumont, Texas. Matt and Dan were working as technical repair engineers and their primary responsibility was to be available on short notice for emergency repairs within the plant.

On this particular day, Matt received a phone call summoning them to an emergency in one of the fabrication buildings, a long massive structure with one side open to the outdoors. They gathered the necessary equipment and drove the repair vehicle to the emergency site. It was large enough to house two or three jumbo jets simultaneously. Matt said they were lucky this time: the required repairs were located on the mechanical assemblies of a conveyor belt only 20 to 25 feet above the ground, not high overhead (which literally meant working at elevations several storeys above the ground).

As they drove into the building, Dan noticed the windshield was getting drenched with water. They both looked around to determine who was spraying their vehicle, assuming it was some kind of practical joke. They exited the repair truck and immediately noticed the building's entire floor was also covered with water. Matt and Dan both suddenly realised that water was mysteriously falling inside the massive structure: it was literally *raining* inside the building. They sat down to enjoy this light-to-medium shower raining down upon them.

The next question was: how could this happen? The hangar was used to house steel that had been heated to a liquefying temperature of 3,200 degrees and then formed and shaped. The hot formed-and-shaped steel was spread throughout the length of the building, cooling on the conveyors. It seemed that the heat from the steel was mixing with the humid outdoor air currents passing through the building, causing it to rain right there inside the building—a steady, light-to-medium rain that fell for several minutes.

They then discussed how it could benefit the people of the world to have consistent access to an unlimited supply of fresh water. That was the very beginning of the water project. After that summer of 1987, Matt and Dan started conducting experiments to re-create the conditions they had witnessed in the large building. They tried different ways to introduce streams of air into a box and collect the water produced. They investigated various technologies, materials and systems but were unable to produce a working model using the airflow concept they had observed. When they sat down and analysed the situation, they realised that the cool air flowing through the building was coming into contact with the hot metal

suspended on the conveyors. This contact of cool air on hot steel caused condensation to occur on such a large scale that it caused the rain to fall inside the building.

Matt and Dan eventually began to experiment with a refrigeration means to condense water, and the process worked. In early 1989, the two began building prototypes.

On 9 November 1993, they were granted a US patent on their atmospheric water generator. On 29 June 2004, they were granted a second patent—US and foreign with worldwide rights.

Finally, Dan and Matt realised another part of their dream. Through Global Water Ltd, and in a strategic alliance with the Aucma Group of China, their water generators are now being manufactured to provide the world with an unlimited supply of pure, fresh, drinking water. (See the website <http://www.globalrainbox.com>.) The Rainbox water generator is currently made in various sizes, including one model that makes 1,500 gallons of water per day.

Daniel Engel is a resident of Cleveland, Ohio, and Matthew Clasby, Jr, is a resident of Orange, Texas.

(Source: *Onlypunjab.com*, 1 March 2006, <http://onlypunjab.com/fullstory2k5-insight-news-status-22-newsID-88049.html>)



"It's been a hard week. Can I have a swig?"

THE REVOLUTIONARY "MASSIVE YET TINY" ENGINE

Angel Labs, based in Lodi, California, has developed a new type of internal combustion engine known as the Massive Yet Tiny™ (MYT™) Engine or the Mighty Engine™ (ME).

The MYT Engine is claimed to deliver 848 horsepower (hp) from an engine weighing just 150 pounds, which would give it a power-to-weight ratio 40 times greater than a standard internal combustion engine. The MYT Engine has the potential to replace all the existing internal combustion engines and jet engines.

With 40 times higher power-to-weight ratio, low parts count, low maintenance, high mechanical efficiency and low pollution, the MYT Engine will benefit airplane, big ship, 18-wheeler, SUV and passenger car, even down to carry-on power generator applications. The MYT engine working as a pump/compressor also exceeds existing pumps/compressors in providing massive pressure, volume and flow, all in one unit.

Theory behind the engine

1) The Mighty Engine (ME) design is very small and simple. The prototype has a 14-inch diameter and is 14 inches long. It weighs 150 pounds. There are only 26 moving parts, 31 parts in total. The first prototype uses diesel or biodiesel for fuel. (The ME design accommodates dramatic reductions in size, depending on the application of the engine.) Through two revolutions of its crankshaft, the ME firing

cycle is equivalent to a 32-cylinder reciprocating engine; that is, it fires 32 times. As a result, its displacement is equivalent to an 848-cubic-inch reciprocating engine, despite its compactness. The design is modular, and additional units can be connected to increase power.

2) At 150 lb, the basic ME design needs only to produce 3,000 hp from 848 cubic inches to produce a 20:1 power-to-weight ratio. By replacing the rear cover of the ME and connecting another ME chamber assembly (adding two inches in length and little additional weight) the ME now becomes a 64-cylinder engine of 1,695 cubic inches, raising the power-to-weight ratio up to 40:1.

3) Since the ME lacks 80% of the parts normally found in a reciprocating internal combustion engine that are responsible for high friction and parasitic losses, this normally dormant horsepower is now available and would increase the total deliverable output of the ME.

4) Normally, in a compression ignition (diesel) engine, combustion begins at TDC (top dead centre) at the zero-degree crankshaft position. The expanding gases push the piston down on the power stroke, rotating the crankshaft 180 degrees. The piston then returns to TDC, pushing the exhaust at the exhaust stroke and rotating the crankshaft another 180 degrees. This is the burning time in a standard engine: a total of 360 degrees' duration.

5) On a dynamometer, an engine's combustion temperature is typically measured at two inches from the exhaust ports, on the premise that the combustion temperature is very close to exhaust temperature. This is due to the zero-degree duration at TDC and the 360 degrees' running duration of a standard engine.

However, if at TDC the piston is allowed to stay for a longer duration, it will burn a greater percentage of the fuel and air mixture in the combustion chamber until oxygen or fuel theoretically runs out

at the end of the power stroke, thereby totally completing the combustion process and drastically lowering the exhaust temperature at the end of the exhaust stroke.

6) The ME design permits the piston dwell at TDC to be adjustable. The prototype ME is currently set at approx. 12 degrees of the crankshaft rotation, thereby approaching the perfection of a complete burn of all fuel. Its exhaust gases are much cooler. As a result:

- More energy is harnessed for the same amount of fuel and air input.
- There is less left-over fuel to continue to burn at the exhaust stroke.
- There is less waste and pollution.

7) The higher compression ratios used in diesel engines result in greater thermal expansion of gases in the cylinder. The end result is a high percentage of fuel energy being converted into useful power. In the ME design, a compression ratio as high as 70:1 can be attained due to the absence of the restrictive reciprocating components. Specifically:

- The combustion chambers in the ME have no design limitations, due to the absence of valves. (The internal combustion engine is an air pump. Airflow through intake and exhaust ports is normally restricted by valves. The ME has no valves—just open ports with no restriction. Airflow action is one way.)

• There are no odd or brand-new parts within the cylinder. All the parts are proven designs used in reciprocating engines.

- The entire engine acts as a heat sink and a radiator. It is both air and oil cooled.

• There is no thrust-loading on piston skirts.

- Pistons do not touch the cylinder walls; only the rings do.

• Pistons travel only the same direction: no reciprocation; only stop and go.

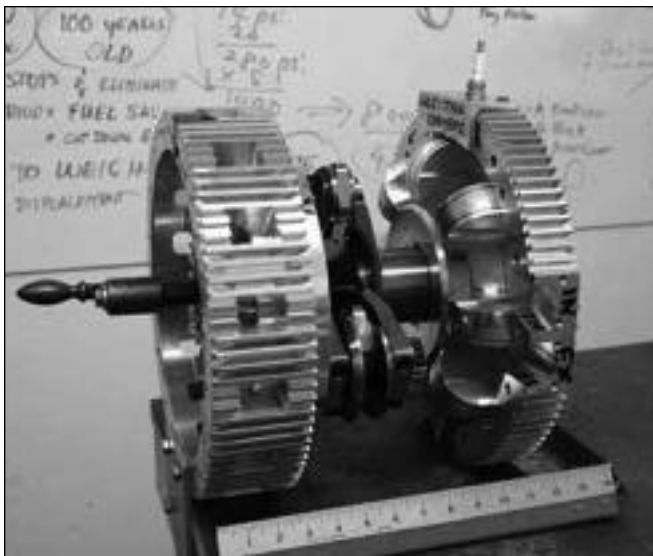
- There is high rpm potential for all of these reasons.

• It has no cylinder heads, no cam shaft, no valves. (The ME is equivalent to the bottom end of a reciprocating engine.)

• Intake compression and power stroke and exhaust stroke events are happening all at the same time, so there are no load strokes.

- The ME design is not a rotary or a Wankel design.

(Source: Angel Labs, tel +1 (408) 667 1979, email jin@angellabslc.com, website <http://www.angellabslc.com>)



The MYT™ (Massive Yet Tiny™) or Mighty Engine™

MARCUS REID'S CRYSTAL UNITS

Editor's note: German engineer and free-energy researcher Eckhard Kantz posted the following on his website in April 2006.

I confirm that I have received and thoroughly investigated to the best of my knowledge some multiple battery-like devices that deliver a continuous energy output without any energy input which would be visible to my (current) measurement equipment.

The devices were provided by Marcus Reid, the developer and manufacturer of these units. I am an engineer of energy devices and had the pleasure to take over the task and responsibility for conducting all kinds of experiments on the received crystal units since August 2005 when I met Marcus Reid the first time.

During the last months I have tested, with the help of others (I would like to thank them for their support), multiple crystal units—developed and manufactured by Marcus Reid—at the Institute of Research for Vacuum Energy, with the objective being to find out which energy these battery-like devices could be powered by. The tests have been fully documented on a German website, Das Geheimnis des Kristallaggregates (see website <http://www.wegalink.de/energy/>) and included in particular:

- investigations with a gamma spectrometer
- thermo-energetic exchange
- magnetic response
- load tests
- high-frequency noise
- possible relationship to solar bursts.

In no case was there any hint that the crystal unit would receive input energy from any known energy source like energetic particles, magnetic energy or heat energy.

All investigations on electromagnetic waves and temperature were done with extreme effort and as thoroughly as possible.

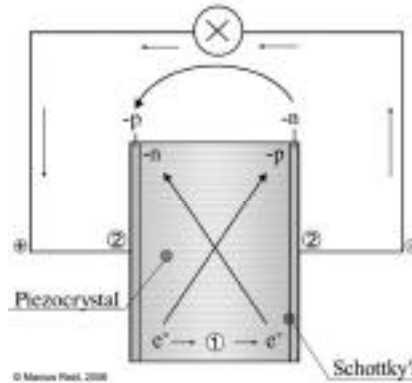
During the last months, the source of energy which powers the crystal units was at the centre of investigation. Up to now, it has not been possible to find a known input energy form.

It is now the objective to develop and confirm more and more powerful devices. Therefore the investigations will focus on all kinds of relationships that will provide us with some better insight into the technology.

(Source: Edited from Eckhard Kantz's website, <http://www.wegalink.net/energy/>)

Basic Design of the Crystal Unit

This model is a first attempt to describe the feasible schematic design of the Reid unit. This model appealed to us, in view of the available know-how in the fields of semiconductor physics, piezoelectrics and the "new field of vacuum energy physics".



1. The piezoelectric crystal transports the electrons in the inner side of the crystal unit through the blocking layer (blocking state region) from + towards -.
2. The p- semiconductor absorbs (draws) the electrons over the external circuit from n-.

The p- characteristic is the maximum towards the left on the anode and decreases towards the right (conductivity of the semiconductor within the material being due to electron holes).

The n- characteristic increases towards the right (conductivity of the semiconductor in the material being due to the surplus of electrons and the longitudinal polarised piezoelectric crystal).

The capacity to transport electrons within the crystal unit, caused by the polarised and longitudinally oriented piezoelectric crystal, must be "stronger" than the n-, p- related conductivity of the semiconductor caused by the "holes".

Therefore, an effect similar to tunnel diodes might be possible, which should be in a position to break the blocking layer caused by the semiconductor. In the above diagram, 1 and 2 form two different semiconductors which are united with one another and are "opposite in direction", so to speak.

The anode and cathode material is selected in such a manner that, because of the electro-negative difference, it has an intensifying effect on the p-, n- semiconductor situation/location in the external circuit.

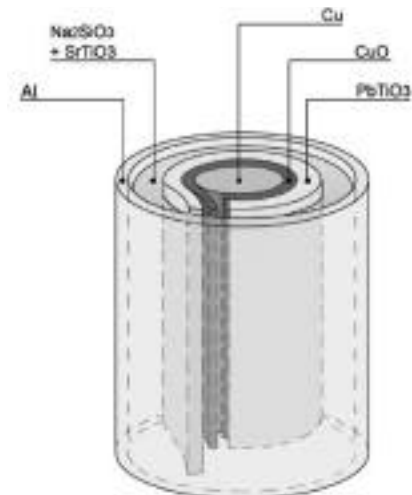
Consequently, the voltage would also be generated by an electrochemical process. However, not so the current. To what extent a Schottky diode effect can have a

supporting effect on the n- metal transition remains to be seen.

The current flow may be caused by two different phenomena:

- first, through known thermal processes in semiconductors and piezoelectric crystals; consequently, the crystal units must become colder when under load, and environmental heat is then the source of energy;

- second, possibly through vacuum fluctuations due to the Casimir effect, which excites the compressed piezoelectric crystal to vibrate. The piezoelectric crystal should be able to produce current through the permanent mechanical deformation. Refer to the Feynman ratchet principle. The source of energy in this case is the inexhaustible active vacuum.



Schematic view of a crystal unit. It is an aluminium cylinder where sodium meta silicate (Na_2SiO_3) is melted in and brought to crystallisation.

The "insider" will quickly notice that our model has a number of different possibilities. Therefore, we are not in favour of further speculations. We believe that the overall concept may represent a new phenomenon, and only additional experiments and extensive series of measurements/tests will show what we are dealing with here.

References

- *New Scientist*, 2 February 2002, article on MIT's use of semiconductors as a source of electric energy.
- *New Scientist*, 4 September 2004, article on obtaining electricity directly from heat.
- *New Scientist*, 1 October 2005, article on obtaining energy from the vacuum.
- Tom Bearden, *Energy from the Vacuum*, Cheniere Press, 2002.

(Source: Institute of Research for Vacuum Energy, <http://www.vakuuenergie.de/crystalunit.html>)